

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

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Title of Invention: Airless Spray Gun

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## AIRLESS SPRAY GUN

### RELATED APPLICATIONS

This application claims the benefit of US Application serial number \_\_\_\_\_, filed \_\_\_\_\_  
5 \_\_\_\_\_.

### BACKGROUND OF THE INVENTION

Airless spray guns for the application of paint and similar materials are well known. One perennial problem with such guns is that they tend to become covered in dried paint after use making disassembly for cleaning and maintenance difficult. This  
10 difficulty is further compounded by the need for tools which may not be at hand.

### SUMMARY OF THE INVENTION

It is therefore an object of this invention to provide an airless gun which is easily  
15 disassembled and which minimizes the need for tools, particularly special tools, to do so.

Towards that end, the spray gun of the instant invention is provided with a trigger guard which may be detached from the gun body at its upper end and then used as a wrench to unscrew the handle from the gun body or housing. The filter is located in the handle and is designed so that fluid flows from the inside out in contrast to known guns

which typically flow from the outside in. This construction provides for debris to be trapped inside the filter rather than inside the gun handle thereby providing easier removal of the filter from the handle. A simplified needle assembly is provided which requires no adjustment and which is easy to service and assemble.

5 These and other objects and advantages of the invention will appear more fully from the following description made in conjunction with the accompanying drawings wherein like reference characters refer to the same or similar parts throughout the several views.

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## **A BRIEF DESCRIPTION OF THE DRAWINGS**

Figure 1 is an exploded view of the instant invention.

Figure 2 is a perspective view of the trigger guard/wrench of the instant invention.

Figure 3 is a detailed view showing the engagement of the trigger guard with the gun body.

15       Figure 4 is a detailed view showing the engagement of the trigger guard with the  
handle at the bottom of the gun.

Figure 5 is a cross-sectional view of the spray gun.

Figure 6 is a cross-sectional view of the spray gun detailing the needle assembly.

Figure 7 is an exploded view of the needle assembly.

## **DESCRIPTION OF THE PREFERRED EMBODIMENT**

The instant invention, generally designated 10 in Figure 1, is generally comprised of a gun body or housing 12 having therein a needle assembly 14 (described more fully hereinafter) and held in body 12 by spring 16 and nut 18. A trigger 20 is pivotably attached via screws 22. Handle 24 is keyed into body 12 at the top end thereof and is held in place by handle tube 26 which screws into body 12.

As shown in Figures 2-4, trigger guard/wrench 34 has a hex-shaped opening 34A which can engage swivel 28 to unscrew handle tube 26 and handle 24 from body 12. To do so, the operator unlatches the top end 34B by lifting slightly over latch 12A and pulling outward and then sliding the hex 34A over the swivel 28 and unscrewing.

As can best be seen in Figure 5, filter 32 is inserted into the handle tube 26 and has an interior cavity 32A where incoming paint flows. Such paint then passes through the filter itself (normally a screen type filter) and thence into outlet cavity 32B before flowing into outlet passage 12B.

Needle assembly 14 is detailed in Figures 1, 6 and 7. In particular, seat/diffuser 14A is screwed into the front end of body 12. The rest of the assembly is installed already assembled as shown in Figure 1. That portion of the assembly 14 is comprised of a needle end 14C having a ball 14J on the end thereof. A U-cup seal 14D and an O-ring seal 14E provide sealing on the end of seal housing 14F. Needle 14G is sandwiched between seal

housing 14F and push plate 14H. Needle 14G is threaded at the front end to needle end 14C and at the rear to lock nut 14I.

It is contemplated that various changes and modifications may be made to the airless spray gun without departing from the spirit and scope of the invention as defined  
5 by the following claims.